

REMARKS

Claims 2–13, 15, 17, and 21 are pending. Claims 1, 14, 16, and 18–20 have been canceled. Claims 2–5, 11–13, 15, and 17 are amended. Claim 21 has been added.

Support for new claim 21 can be found, for example, in the specification as originally filed at page 2, lines 13–20; page 2, lines 25–27; page 4, lines 23–29; page 5, lines 19–21; page 10, lines 10–13; page 10, lines 24–25.

§ 112 Rejections

Claim 18 was rejected under 35 USC § 112, first paragraph, as purportedly failing to comply with the written description requirement. The Applicants respectfully traverse the Patent Office position and reiterate their arguments presented in the response filed June 8, 2005. In order to facilitate the passing of the present application to allowance, however, Applicants have cancelled claim 18.

Claims 2–17, 19, and 20 were rejected under 35 USC § 112, second paragraph, as purportedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

The Patent Office asserted that the claims recited two limitations that are “seemingly incompatible with one another.” Particularly, the Patent Office asserted that the surface of the substrate could not be in contact with the surface of the fluoropolymer while one or both surfaces are treated with a bonding composition. The Patent Office asserts that it is impossible for two surfaces to be in contact with or directly bonded to one another if a bonding composition is interposed between them.

New claim 21 claims an article comprising a first substrate having a surface and a second substrate having a surface. The surface of the first substrate contacts the surface of the second substrate. Further, each of the first and second substrates independently comprises a matrix material selected from a metal, a glass, an organic-inorganic composite, a fluoropolymer, and a non-fluorinated polymer with the proviso that at least one of the first substrate and the second substrate is a fluoropolymer that forms a mixture with a bonding composition. The bonding composition includes a light-absorbing compound that absorbs light between 200 nm and 400 nm, and an electron donor that is distinct from the light absorbing compound. When the bonding

composition is exposed to actinic radiation of a wavelength that is absorbed by the light-absorbing compound, free radicals are generated at the interface of the first and second substrates thereby enhancing the bonding of the first substrate to the second substrate.

With the foregoing amendment to claim 21, any asserted indefiniteness is overcome. Accordingly, Applicants kindly submit that the rejection under 35 U.S.C. § 112, second paragraph, is inappropriate and request that it be withdrawn.

In summary, Applicants submit that the rejection of claims 2–13, 15, 17 under 35 USC § 112, second paragraph, has been overcome, and that the rejection should be withdrawn. The rejection of claims 18–20 is obviated in view of the cancellation of those claims.

§ 102 Rejections

Stoeppelmann

Claims 3, 6–8, 13, 16, 17, and 20 were rejected under 35 USC § 102(b) as being anticipated by Stoeppelmann (U.S. Patent 5,869,157) [hereinafter Stoeppelmann].

Claims 16 and 20 are cancelled.

As the Patent Office admits, Stoeppelmann teaches a fluoropolymer layer, a polyamide layer, and a layer of adhesion promoter. Stoeppelmann does not teach, suggest or describe the invention described in independent claim 21. In particular, the polyamide of Stoeppelmann is bonded directly to the intermediate layer described therein. The intermediate layer then interacts with the fluoropolymer to promote adhesion.

Claims 3, 6–8, 13, and 17 each ultimately depend from new claim 21 and add patentable features thereto. In light of the foregoing discussion with respect to claim 21, Stoeppelmann also does not teach, suggest or describe the invention as claimed in claims 2, 6–8, 13, and 17.

The Applicants respectfully submit that the rejection of claims 3, 6–8, 13, and 17 under 35 U.S.C. § 102(b) as being anticipated by Stoeppelmann has been overcome and kindly request that this rejection be withdrawn.

Nishii

Claims 2–4, 6, 12–17, 19, and 20 were rejected under 35 U.S.C. § 102(b) as purportedly being anticipated by Nishii (U.S. Patent 5,470,617) [hereinafter Nishii].

Claims 14, 16, 19, and 20 are cancelled.

Referring to new independent claim 21, Nishii does not teach, suggest or describe the invention described in new independent claim 21. Furthermore, claims 2–4, 6, 12–13, 15, and 17 each ultimately depend from claim 21 and add patentable features thereto. In light of the foregoing addition of independent claim 21 and amendment to claims 2–4, 6, 12–13, 15, and 17 to depend from claim 21, Nishii also does not teach, suggest or describe the invention as claimed in claims 2–4, 6, 12–13, 15, and 17.

The Applicants respectfully submit that the rejection of claims 2–4, 6, 12–13, 15, and 17 under 35 U.S.C. § 102(b) as being purportedly anticipated by Nishii has been overcome and kindly request that this rejection be withdrawn.

Vasta

Claims 3, 6, 7, 10, 13–15, and 20 are rejected under 35 U.S.C. § 102(b) as purportedly being anticipated by Vasta (U.S. Patent 4,495,247) [hereinafter Vasta].

Claims 14 and 20 are cancelled.

Vasta does not teach, suggest or describe the invention described in independent claim 21. In particular, the primer composition of Vasta is bonded directly to the substrate described therein. The primer composition then interacts with the fluoropolymer to promote adhesion between the primer composition and the fluoropolymer. The fluoropolymer of Vasta does not have a surface in contact with and bonded directly to the surface of the substrate, as described in claim 21. Thus, Vasta does not teach, suggest or describe all of the elements of claim 21.

Claims 3, 6, 7, 10, 13, and 14 each ultimately depend from claim 21 and add patentable features thereto. In light of the foregoing remarks and newly added claim 21, Vasta also does not teach, suggest or describe the invention as described in claims 2, 6, 7, 10, 13, and 14.

The Applicants respectfully submit that the rejection of claims 3, 6, 7, 10, 13, and 14 has been overcome and kindly request that this rejection be withdrawn.

Tannenbaum

Claims 3, 6, 8, 12, 14, and 20 were rejected under 35 U.S.C. § 102(b) as purportedly being anticipated by Tannenbaum (U.S. Patent 5,562,991) [hereinafter Tannenbaum].

Claims 14 and 20 are cancelled.

Tannenbaum does not teach, suggest or describe the invention described in new independent claim 21. In particular, the primer composition of Tannenbaum is bonded directly to the smooth substrate described therein. The primer composition then interacts with the fluoropolymer to promote adhesion between the primer composition and the fluoropolymer by forming a mechanical interlock. The fluoropolymer of Tannenbaum does not have a surface in contact with and bonded directly to the surface of a substrate, as described in new independent claim 21. Thus, Tannenbaum does not disclose all of the elements of new claim 21.

Claims 3, 6, 8, 12, and 15 each ultimately depend from claim 21 and add patentable features thereto. In light of the foregoing remarks with respect to claim 21, Tannenbaum also does not teach, suggest or describe the invention as claimed in claims 3, 6, 8, 12, and 15.

The Applicants respectfully submit that the rejection of claims 3, 6, 8, 12, and 15 under 35 U.S.C. § 102(b) as being anticipated by Tannenbaum has been overcome and kindly request that this rejection be withdrawn.

§ 102/ 103 RejectionsStoeppelmann

Claims 18 and 19 were rejected under 35 USC § 102(b) or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Stoeppelmann.

Claims 18 and 19 are cancelled.

Vasta

Claim 19 was rejected under 35 USC § 102(b) or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Vasta.

Claim 19 is cancelled.

Tannenbaum

Claim 19 was rejected under 35 USC § 102(b) or, in the alternative, under 35 U.S.C. § 103(a) as obvious over Tannenbaum.

Claim 19 is cancelled.

§ 103 Rejections*Stoeppelmann*

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Stoeppelmann. Claim 9 ultimately depends upon claim 21 and further adds patentable features thereto. Specifically, claim 9 relates to an article as described [ultimately] in claim 21 wherein the electron donor is a fluoroalkylamine.

For at least the reasons stated above with respect to new claim 21, Stoeppelmann fails to teach, suggest or describe all of the claim limitations of claim 21, and thus also fails to do so for claim 9.

Furthermore, Stoeppelmann does not provide any suggestion or motivation to modify the disclosure of Stoeppelmann to include the use of a fluoroalkylamine. The Patent Office asserts that the motivation would have its origin in a desire to enhance adhesion by making the diamine more compatible with the fluoropolymer to which it is to be applied. The Patent Office does not, however, support this assertion by reference to knowledge known to one having ordinary skill in the art. It appears that the Patent Office bases this rejection on facts within the personal knowledge of an employee of the Office. Accordingly, the Applicants kindly request that this assertion of motivation be supported by an affidavit of the Examiner as required under 37 CFR § 1.104(d)(2). Otherwise, the failure of the Patent Office to point to a motivation to modify Stoeppelmann to give the invention described in claim 9 renders this rejection improper.

The Applicants submit that the rejection of claim 9 under 35 U.S.C. § 103(a) as being unpatentable over Stoeppelmann has been overcome and kindly request that the rejection be withdrawn.

Stoeppelmann over Gillham

Claim 5 stands rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Stoeppelmann in view of Gillham (U.S. Patent 3,309,425 [hereinafter Gillham]).

Claim 5 depends upon claim 21 and further adds patentable features thereto. Specifically, claim 5 relates to an article as described in claim 21 wherein the light absorbing compound includes a phosphonium compound.

For at least the reasons suggested above with respect to claim 21, Stoeppelmann fails to teach, suggest or describe all of the claim limitations of claim 21, and thus also fails to do so for amended claim 5.

Gillham relates to thermoplastic resins containing phosphonium salts as flame-retardant agents. Gillham does not teach, suggest or describe a fluoropolymer having a surface in contact with and bonded directly to the surface of a substrate, as described in new claim 21. Thus, the combination of Gillham and Stoeppelmann fails to describe all of the limitations of new claim 21.

Furthermore, there is no suggestion in Stoeppelmann to modify the composition therein to include phosphonium compounds. The Patent Office has also not shown a reasonable expectation of success from the prior art modification. In particular, the success of the adhesion composition described in Stoeppelmann depends upon the presence of a NH₂:COOH end-group ratio in the range of 1.5:1 to 3:1. Stoeppelmann column 3, lines 59–63. The addition of cationic additives to the adhesion promoter may have an adverse effect on the end-group ratio. The Patent Office has therefore not established a reasonable expectation of success in making this specific modification. The Patent Office did not address this argument in the Final Office Action, and therefore the Applicants cannot be sure that it was considered by the Patent Office. Thus, it is presented again here for consideration.

The Patent Office has failed to show a motivation to modify the disclosures of Stoeppelmann and Gillham to provide the subject matter described in claim 5; and it has not met its burden of establishing a reasonable expectation of success upon making such a modification. Thus, the Patent Office has not met its burden of establishing a prima facie case of obviousness with respect to claim 5 in light of Stoeppelmann over Gillham.

The Applicants respectfully submit that the rejection of claim 5 under 35 U.S.C. § 103(a) as being unpatentable over Stoeppelmann in view of Gillham has been overcome and kindly request that the rejection be withdrawn.

Tannenbaum in view of Friedman

Claim 11 stands rejected under 35 U.S.C. § 103(a) as purportedly being unpatentable over Tannenbaum in view of Friedman (U.S. Patent 5,908,704) [hereinafter Friedman]. Claim 11 depends upon new claim 21 and adds patentable features thereto. Specifically, claim 11 relates to an article described in claim 21 wherein the bonding composition includes a vinyl silane.

For at least the reasons stated above with respect to claim 21, Tannenbaum fails to teach, suggest or describe all of the claim limitations of new claim 21, and thus also fails to do so for claim 11.

Friedman relates to protective glazing laminates. Friedman states, however, that the fluoropolymer films cannot be bonded directly to the substrates (in Friedman, these substrates were glass). See Friedman, column 3, lines 55–58. Instead, Friedman stresses the necessity of adding “coupling agents” to facilitate bonding between the fluoropolymer and the substrate surface. See Friedman, column 4, lines 35–49. Combining the disclosure of Friedman with that of Tannenbaum does not overcome the deficiencies of Tannenbaum with respect to claim 21.

The Patent Office has not met its burden of showing all of the claim limitations of amended claim 11. Therefore, the Patent Office has not met its burden of establishing a prima facie case of obviousness with respect to claim 11 in light of Tannenbaum in view of Friedman.

The Applicants respectfully submit that the rejection of claim 11 under 35 U.S.C. § 103(a) as being unpatentable over Tannenbaum in view of Friedman has been overcome and kindly request that the rejection be withdrawn.

Double Patenting Rejection

The Patent Office rejected claim 18 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 29 of U.S. Patent No. 6,752,894 [hereinafter Jing].

While the Applicants maintain their traversal of this rejection, as discussed in the response filed July 8, 2005, claim 18 has been cancelled to facilitate the passage of this application to allowance.

CONCLUSION

It is respectfully submitted that the application is in condition for allowance, and a favorable action to that end is courteously solicited. In the event the Examiner would prefer language other than that set forth in the claims, it is requested that a telephone interview be had to assist in expediting the prosecution of the application.

Respectfully submitted,

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Date

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